



The Bayou Observer

Spring 2009

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"As public servants, we want to connect with people from across our forecast area, and we hope that this newsletter will help us do just that."

Letter from the Editors

Here at the NWS Weather Forecast Office in Slidell (WFO LIX), we strive to provide you with the most accurate and up to date weather forecasts and data as possible. As public servants, we also want to connect with people from across our forecast area, and we hope that this newsletter will help us do just that.

The Bayou Observer was originally started as a means of communication with our partners and customers. These two groups of people consist not only of government and public safety officials, but also each and every single person that resides or visits our local forecast area – an area covering twenty-two Louisiana parishes and eight Mississippi counties. The newsletter in its original form was popular among our local emergency managers, cooperative observers and weather enthusiasts. Unfortunately, after a few short years, it was set aside in deference to other outreach efforts.

Over the years, there have been inquiries about the fate of The Bayou Observer and whether there were plans to bring back the newsletter. We have heard your requests and are pleased to announce that as we continue to move forward and improve our services to you – our customers – we have decided to revive The Bayou Observer.

The Bayou Observer will be published four times a year (before the start of each season) and will present a variety of articles including (but not limited to):

- Information about typical weather hazards and weather safety for the upcoming season
- A look at our past outreach efforts and information concerning any upcoming talks or events
- An introduction to staff members here at LIX
- News concerning advances and accomplishments in our research efforts
- A "just for fun" zone including weather-related photos, jokes, or puzzles

We hope that you enjoy this edition of The Bayou Observer, and we look forward to providing you with many new editions in the future!

Danielle Manning, Phil Grigsby and Freddie Zeigler
Bayou Observer Editors

Who's Who at LIX

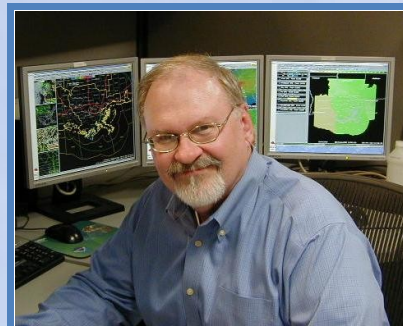
Written by: Danielle Manning and Phil Grigsby

There have been plenty of staffing changes at WFO LIX over the past few years. Some of our former team members have joined the ranks of those living the good life in retirement while others have moved on to new offices and are now serving the public in other areas of the country. Though the faces at LIX may have changed, our mission remains the same: we are committed to protecting lives and property by providing you with the most accurate and up to date weather warnings, forecasts and information we can. In each issue of the Bayou Observer, we will spotlight a few of our top notch team members. For this issue, allow us to introduce our Meteorologist in Charge, Ken Graham; Science and Operations Officer, Mike Koziara; and Warning Coordination Meteorologist, Frank Revitte.



Ken Graham joined our team as meteorologist in charge during August 2008. Before joining our staff, Ken served the public in many different capacities. After earning a Bachelor of Science Degree from the University of Arizona, he continued his education at Mississippi State University, where he earned a Master of Science Degree in Geosciences. Ken began his professional career as a television meteorologist for the local CBS affiliate and also served as an agricultural meteorologist for the Mississippi Network Radio. After leaving Mississippi, Ken began his career with the National Weather Service as an intern at this very office. Ken eventually parted ways with our office to take a position at NWS Southern Region Headquarters serving as the Marine and Public Program Manager, where he helped with the Weather Service Modernization. Ken returned to the operational setting as meteorologist in charge at the NWS office in Corpus Christi and the NWS office in Birmingham (at different times, of course). During his time at these offices, the staffs received numerous awards for implementing new and innovative public products and services. Ken later served an appointment as Chief of Meteorological Services at NWS National Headquarters in Washington, D.C. before returning to the office where his NWS career began – WFO LIX. We are very excited to have Ken back and know that he will support our continuing efforts to improve our services to you.

Mike Koziara is the Science and Operations Officer at WFO LIX. He studied meteorology at Saint Louis University where he received a Bachelor of Science degree in 1974. In 1979, he was awarded a Master of Science degree in Meteorology from the Naval Post Graduate School located in Monterey, California. Mike is a member of the American Meteorological Society and the National Weather Association, and has more than 30 years of professional meteorological experience. He began his career as an intern at the NWS office in Columbia, South Carolina. In 1983, he was promoted to the forecaster position at the office here in Slidell. He served the public as a forecaster for eleven years at this office. In 1994, Mike accepted a promotion to his current position of science and operations officer. In his current position, his duties include integrating new science and technology into daily operations and training the staff to use the latest forecast techniques.

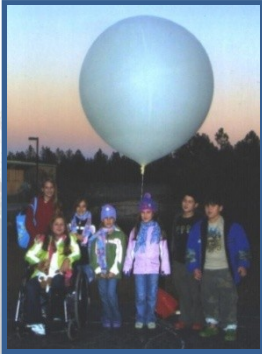


Frank Revitte is the Warning Coordination Meteorologist (WCM) here at the New Orleans/Baton Rouge weather forecast office (WFO). Frank graduated with a Bachelor of Science degree in meteorology from Oklahoma University and has been working with the National Weather Service for almost 30 years. He has been serving as the WCM at our office for more than 20 years. As WCM, his duties include serving as the principal interface between the WFO and the users of WFO products and services. He is also responsible for planning, coordinating, and carrying out all WFO public awareness programs, with the goal of ensuring mitigation of death, injury, and property damage caused by severe natural weather events. He also leads and coordinates WFO staff efforts by providing direction, guidance, instruction, and assistance to the staff in conduct of weather service operations. Prior to arriving at the WFO in New Orleans, Frank worked at the WFO in Miami, FL.

LIX in the Community

Past Outreach Events

Written by: Phil Grigsby and Danielle Manning



As part of our commitment to serving the public, we frequently participate in outreach activities. These activities range in scope from giving office tours for individuals or groups, to attending or hosting meetings with our partners, to giving presentations at local or regional meetings and participating in various other activities throughout the community.

In December we were visited by a group of girl scouts working on a weather badge. They were given a tour of the office and were very excited to learn about what we do here at the NWS office in Slidell. After a brief round of questions at the end of their visit, they even got to help one of our meteorologists with the weather balloon launch. (See pictures top left and bottom right.)

At the beginning of January, staff members from LIX manned a booth at the New Orleans Boat Show which was held at the Morial Convention Center. Over 750 people stopped by the booth to inquire about our marine and public weather services. We provided multiple informational brochures concerning safe boating weather tips, rip current safety, hurricanes, and severe weather safety.

The National Weather Service hosted a meeting with area burn managers February 2nd, 2009. This meeting was attended by burn managers from Sandhill Crane National Wildlife Refuge, Big Branch National Wildlife Refuge, and Desoto National Forest, as well as staff from the National Weather Service office. Topics discussed ranged from forecast verification for 2008 to planned burn activities for 2009. The NWS staff gained a better understanding of the problems and challenges faced by the burn managers, particularly in the realm of smoke management issues after a burn has been completed. In addition, the burn managers gained a better understanding of the forecast processes that take place to produce a fire weather forecast.



Future Outreach Events

Written by: Danielle Manning

On Saturday May 16, 2009, the National Weather Service in Slidell will host its first ever open house, and you're invited! The open house will begin at 10 am and will last until 4 pm. During the open house you will have a chance to tour our office, meet our staff and learn about what we do. In addition to the office tours, there will be various activities outside of the office for people of all ages. Though some of the details are still in the works, here are a few of the things we hope to include:

- Weather balloon launches
- Exhibits from some of our partners such as the Red Cross, National Data Buoy Center, Ham Radio Operators and Office of Emergency Preparedness
- Tornado exhibit including demonstrations and instructions for how to build your own pet tornado
- A tornado simulator aimed at helping demonstrate proper tornado safety procedures
- Poster presentations of some of the areas more significant weather events
- Games and contests for children including scavenger hunts and a hurricane toss
- Weather-related music playing throughout the event

Check our website or listen to NOAA weather radio for more information as the date nears. We hope to see you there!

Climatology Corner

Spring Climatology and Outlook

Written by: Gavin Philips and Danielle Manning

The spring months of March, April, and May are marked by extremely varied weather patterns. Cold fronts are still able to move through the region, but there can be significant warm periods between the fronts. Generalized ranges of normals and records for the area can be found in the tables below.

Temperature ranges are given in the 5 degree increment that best captures the average highs and lows across the entire area. Actual normals for some days (especially near the beginning or end of a month) may be a few degrees outside of this range.

	March		
	High	Low	Rainfall
Normal	67-72 °F	48-53 °F	5.00-6.25 in
Record	82-87 °F	28-32 °F	12.0-16.0 in

	April		
	High	Low	Rainfall
Normal	76-81 °F	55-60 °F	5.00-6.00 in
Record	85-90 °F	37-42 °F	15.0-17.0 in

	May		
	High	Low	Rainfall
Normal	82-87 °F	63-68 °F	4.50-5.50 in
Record	90-95 °F	47-52 °F	12.0-21.0 in

Record temperatures vary greatly across the area. The ranges given include all record temperatures and rainfall totals from the climate stations at Baton Rouge, New Orleans, McComb, and Biloxi. The large range is mainly due to the fact that during the spring months, cold fronts are more likely to affect the northern parts of the area than they are to affect the southern half of the area. This can result in very sharp temperature gradients across the local forecast area which stretches from the McComb, Mississippi area southward to the Gulf Coast.

Rainfall records from the month of May vary significantly from site to site. For instance, record rainfall for McComb, Mississippi is a mere 11.23 inches compared to New Orleans, Louisiana where the record is 21.18 inches. The significant rainfall event that affected southeast Louisiana and coastal Mississippi in May of 1995 dropping 12 to 24 inches of rain over a two day period completely missed most areas to the northwest of the lake. That rainfall event caused waist-deep flooding across large portions of the New Orleans metro area. Damage due to the event was estimated at over \$350 million for the city of New Orleans alone. When the damages from surrounding areas are added, the total damage estimate rises to over \$1 billion dollars.

For areas south of Lake Pontchartrain, the latest freeze is typically in early February. For areas north of the lake, the latest freeze typically occurs at the beginning of March. However, as is evident in by the record low temperatures, later freezes do occasionally occur – even as late as April. The latest freeze on record in New Orleans April 4, 1915 (recorded at Audubon), this is in contrast to the latest freeze on record at McComb, which occurred April 15 just last year.

On February 5, 2009, the Climate Prediction Center issued an El Niño/Southern Oscillation (ENSO) diagnostic discussion stating that La Niña conditions (or cooler than normal water temperatures off the coast of Peru) are expected to continue through the upcoming spring season. For the southeastern United States, La Niña conditions typically lead to warmer than normal temperatures and below normal rainfall.

Mardi Gras Climatology

Written by: Robert Ricks

Mardi Gras is a large cultural happening that takes place every year across the Gulf States, with its origins dating back to 1700s France. In the United States, the festivities started in the Mobile, Alabama area and spread westward to New Orleans and Galveston during the 1800s. Though Mardi Gras is French for Fat Tuesday, it is typically considered a season that starts on King's Day or Candlemas, January 6th and ends on Fat or Shrove Tuesday, the day before Ash Wednesday. Since Ash Wednesday is determined by the Spring Equinox, Mardi Gras Day can only occur on a day between February 3rd and March 9th. The National Weather Service maintains a record of past Mardi Gras weather dating back to 1874. Below are some weather facts surrounding Mardi Gras.



	High	Low	Rainfall
Record	83 °F (2/20/1917)	22 °F (2/14/1899)	2.12" (3/1/1927)
Average	66.2 °F	48.8 °F	0.11"



Rainfall has occurred on 43 out of 135 years, making the average chance of measurable rainfall on a Mardi Gras Day 32 percent. Due to the wide range of dates on which Mardi Gras can fall, and the large temperature range during the early spring, the temperatures experienced on Mardi Gras day also vary significantly. New Orleans has experienced 7 out of 135 years with daytime temperatures on Mardi Gras Day reaching at least 80 °F (approximately a 5 percent chance). Conversely, Mardi Gras Day has seen freezing temperatures at or below 32 °F on 8 out of 135 years, or approximately 6 percent of the time.

A few other records concerning Mardi Gras:

- The warmest morning low was 69F, occurring on February 8, 1921 and again on February 5, 2008
- The coldest afternoon high was 38F, occurring on February 14, 1899

Incidentally, the coldest day ever in New Orleans recorded weather history occurred on Lundi Gras, February 13, 1899. The low temperature that morning was 7 °F. That Mardi Gras saw about 3 inches of snow on the ground that would have to be removed before parades could roll. The King of Rex promised the city of New Orleans that if residents along St. Charles Avenue would remove the snow, the Krewe would still parade along the route. Today, the Mardi Gras season attracts nearly 1 million tourists to the Crescent City to take part in the two weeks of festivities.

This year Mardi Gras falls on February 24. The normal high and low temperatures for February 24 are 67 °F and 48 °F, respectively. The record high and low temperatures are 81 °F (occurring in 1982) and 28 °F (occurring in 1989). The normal rainfall for February 24 is 0.19 inches compared to a record total rainfall of 3.15 inches (occurring in 1985). There has never been snow observed on February 24.

Mardi Gras has fallen on this date five times in the past. The climatological data from those dates can be found in the following table:



Year	High T (°F)	Low T (°F)	Avg T (°F)	Rainfall (in)
1903	66	46	56.0	0.00
1914	45	32	38.5	0.29
1925	69	55	62.0	0.00
1998	69	45	57.0	0.00
2004	62	55	58.5	0.35
Average	62.2	46.6	54.4	0.13



Severe Weather Information

Written by: Phil Grigsby

Severe weather can occur at any time of the year. However, along the Gulf Coast there are two distinct time periods when severe weather is most likely to occur. The first period generally runs from February through May with a secondary period in October and November. Compared to other regions of the country, Southeast Louisiana and Southern Mississippi experience relatively little severe weather. However, the severe thunderstorm threat in the region should not be taken lightly. On average, the region experiences 12 tornado events per year, 47 damaging wind events per year, and 15 damaging hail events per year. Any of these events has the potential to cause property damage, injury, and possibly loss of life.

If there is a threat of severe thunderstorms or tornadoes developing across the region, the National Weather Service will issue a Severe Thunderstorm Watch or a Tornado Watch. If a watch is issued for the area, one should stay alert for rapidly changing weather conditions and be ready to take action if warnings are issued. If a severe thunderstorm forms and begins to threaten the forecast area, the National Weather Service will issue a Severe Thunderstorm Warning for the area expected to be impacted by this thunderstorm. If the thunderstorm begins to show signs of rotation, this is indicative that a tornado may be forming within the thunderstorm, and the National Weather Service will then issue a Tornado Warning. If either of these warnings have been issued one should immediately seek appropriate safe shelter if you are in the path of the storm.

So, the question begs, what exactly is an appropriate safe shelter if a severe thunderstorm or tornado warning is issued for your area? If you are in your home, move to a small interior room or hallway on the lowest floor and get under a sturdy piece of furniture. Remember to put as many walls as possible between you and the outside. If you live in a mobile home, move to a substantial shelter. The thin walls of a mobile home are vulnerable to wind-blown debris, and they can be easily overturned by strong wind gusts. If you are in a large structure such as an office building, hospital, or shopping center, move rapidly to the designated shelter. Do not try to escape in your car. If you are in a school, seek shelter in an interior hallway on the lowest floor.

If you are caught outside when a severe thunderstorm warning or tornado warning is issued, the best course of action is to try to find shelter in a sturdy structure. If you are not able to find shelter in a sturdy structure, try to get as low to the ground as possible. Being low to the ground will reduce the chances of being impacted by wind-blown debris, and will reduce your risk of being struck by lightning. Do not try to outrun a severe thunderstorm or tornado in your car. In addition, do not seek shelter from a tornado beneath a highway overpass.

The best course of action is to be prepared for any severe thunderstorm activity in advance. You and your family should try to develop an action plan in the event that a warning is issued for your area. Also, a NOAA weather radio is a good thing to acquire because it will alarm if a warning is issued for your area, hopefully giving you enough time to take shelter ahead of the storm. This radio is particularly useful at night when you are sleeping and may not have a commercial radio or a television station turned on.

Severe Weather Quick Reference

Severe Thunderstorm or Tornado Watch: Issued when conditions are favorable for severe thunderstorm development

What to do: Be prepared for rapidly changing weather. Be prepared to take shelter if necessary. Stay tuned to NOAA weather radio for updates.

Severe Thunderstorm or Tornado Warning: Issued when radar indicates that a thunderstorm is capable of producing damaging wind, large hail, or a tornado

What to do: Take shelter immediately if you are in the path of the storm. Listen to NOAA weather radio for the latest information.

Where to take shelter if you are...

In your home: Move to a small interior hallway on the lowest floor and get under a sturdy piece of furniture. Put as many walls as possible between you and the storm outside.

In a mobile home: Move to a more substantial shelter as the thin walls will offer little protection.

In an office building, hospital, or school: Move quickly to the designated shelter.

Outside or in a car: Get inside a sturdy structure if possible. Otherwise get as low to the ground as possible. DO NOT try to outrun the storm and DO NOT take shelter under an overpass.

Some important things to have...

Flashlight with working batteries
First Aid kit
NOAA weather radio
Cell phone or corded land-line phone

Calling All Volunteers



Community Collaborative Rain, Hail & Snow Network

What is CoCoRaHS?

The Community Collaborative Rain, Hail and Snow Network, or CoCoRaHS, is a non-profit, community-based network of volunteers working together to measure and map precipitation with the goal of providing the highest quality of data for natural resource, education, and research applications.

Who can participate? And what do observers do?

CoCoRaHS is a community project - anyone can sign up to participate using the CoCoRaHS website. Each time a rain, hail, or snow storm crosses the area, observers take measurements of the precipitation and submit the measurements via the CoCoRaHS website. The data can then be viewed and used by the NWS and other interested agencies or individuals.

For more information please visit <www.cocorahs.org> or email Robert Ricks at <SR-LIX.Webmaster@noaa.gov> using the subject line "CoCoRaHS".

The Fun Zone

Submitted by: Michael Efferson



"Although the Weather Service hasn't predicted rain, certain indicators can't be ignored."

Weather Word Jumble

Unscramble the weather-related words and use the circled letters to solve the riddle. All words except for the answer to the riddle appear somewhere in the articles.

Riddle: Where did the meteorologist stop to get a drink after a long day at work?

Answer: The _____

1. ONTARDO _ O _ _ _ _ _
2. MHUSRONTDRET _ _ _ _ _ O _ _ _ _
3. HWEETAR DIRAO _ O _ _ _ _ _
4. GTNILHNG _ O _ _ _ _ _
5. ROBEERTMAT O _ _ _ _ _
6. SRSEUPER _ O _ _ _ _ _

Answers on Page 8

Learning Lesson: Make Your Own “Dry” Barometer

Total Time: 5 minutes to construct, 10 days of observation

Supplies: drinking straw, small coffee can, plastic wrap, scissors, index card, rubber band

Background

Barometers using mercury are heavy and fragile. The idea of a “dry” barometer was conceived by Gottfried Wilhelm Leibniz around 1700. The idea was to detect pressure changes using sealed bellows. The first working version of an aneroid (without water) barometer was built in 1843 by French scientist Lucien Vidie.

This made the barometer very portable and it became a commonly used meteorological instrument. It was still calibrated to the mercurial barometer with reading in inches of mercury. Even as late as the 1990s, National Weather Service offices still calibrated and verified the accuracy of the aneroid barometer with the mercurial barometer.

Procedure:

1. Cover the top of the coffee can tightly with the plastic wrap, using the rubber band to hold it in place. (The cover should be a taut, airtight fit.)
2. Position the straw so that it lays across two thirds of the cover with the remaining length of the straw suspended over air. Tape the straw in place.
3. Make a 90° fold at one end of the index card, about one inch from the end. Tape the folded end of the index card to the can behind the straw in such a way that allows you to make marks on the card every day.
4. Record the level of the straw onto the card.
5. Over the next 10 days, at the same time each day, record the level of the straw while paying close attention to how changes in the weather affect the straw's level.

Discussion:

What you have constructed is similar to an aneroid barometer – the most common type of barometer for home use. The aneroid cell volume (the air inside the coffee can for this exercise) is very sensitive to changes in atmospheric pressure as it expands and contracts as air pressure decreases or increases. Attached to the aneroid cell is a lever (the straw) indicating the air pressure.

In this barometer, high pressure in the atmosphere will force the plastic wrap into the can, causing the straw tip to rise. The opposite will occur when low pressure is in the area. The decrease in weight of air on top of the can will help cause the plastic wrap to rise, therefore lowering the straw tip.

This learning lesson was adapted from <www.srh.noaa.gov/srh/jetstream>.

Contact Us

If you have any questions or comments about this issue of the Bayou Observer, or if you would like to make a suggestion for a future issue, please let us know. You can contact the editors by emailing <SR-LIX.Webmaster@noaa.gov> with the subject line “Bayou Observer”. We look forward to hearing from you!